

4.2 The specialist appointed in terms of the Regulations_

I, MICHELLE PRETORIUS, declare that --

General declaration:

I act as the independent specialist in this application;

I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;

I will comply with the Act, Regulations and all other applicable legislation;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

all the particulars furnished by me in this form are true and correct; and

I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist:



SCIENTIFIC AQUATIC SERVICES

Name of company (if applicable):

26 MAY 2015

Date:



ANNEXURE B SPECIALIST CVS





SCIENTIFIC AQUATIC SERVICES (SAS) – SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF MICHELLE PRETORIUS

PERSONAL DETAILS

Position in Company	Ecologist, Botanist, Visual specialist
Date of Birth	5 October 1982
Nationality	South African
Languages	English, Afrikaans
Joined SAS	2011

MEMBERSHIP IN PROFESSIONAL SOCIETIES

South African Council for Natural Scientific Professions (SACNASP)
 South African Council for the Landscape Architectural Profession (SACLAP)
 Botanical Society of South Africa

EDUCATION

Qualifications

BSc (Hons) Plant Science (University of Pretoria)	2009
BSc (Landscape Architecture) (University of Pretoria)	2006
BSc (Botany) (University of Pretoria)	2003

Short Courses

Global Mapper Training – Blue Marble Training	2014
Rehabilitation of Mine-impacted Land – Africa Land Use Training	2011
Mine Closure and Rehabilitation Conference – ITC	2011
Rehabilitation of Degraded Land – Africa Land Use Training	2009

COUNTRIES OF WORK EXPERIENCE

South Africa – Gauteng, Mpumalanga, North West, Limpopo, KwaZulu-Natal, Western Cape
 Tanzania
 Democratic Republic of the Congo



SELECTED PROJECT EXAMPLES

Floral Assessments

- Floral assessment as part of the environmental assessment and authorisation process for the proposed Vandyksdrift project at the Wolvekrans Colliery, Mpumalanga.
- Floral assessment as part of the environmental authorisation process for the proposed Tharisa North eastern waste rock dump, North West Province.
- Terrestrial ecological scan as part of the environmental authorisation process for the proposed Olievenhoutbosch linkage road, Gauteng.
- Floral assessment as part of the proposed Lekutung hotel, residential and golf estate development, North West Province.
- Phytosociological description, PES and function assessment of the floral resources in the vicinity of the Musonoi project in Kolwezi, Democratic Republic of Congo.
- Vegetation management plan for input into the closure planning process of the Tulawaka Gold Mine, Tanzania.
- Habitat evaluation in terms of floral integrity and PES in order to determine whether the grassland on the proposed Gillimead Agricultural Holdings development site has high conservation value, Gillimead, Gauteng.

Wetland Assessments

- Consideration of potential wetland features on the proposed Lanseria Extension 57 development site, Sunrella A.H, Gauteng.
- Riparian Vegetation Index determination and wetland delineation for the proposed Libertas Road upgrades, Gauteng.
- Wetland assessment along the proposed alignment of the bus rapid transit line 2a and 2b in the City of Tshwane, Gauteng.
- Wetland delineation in the vicinity of a proposed open pit development site, Modikwa Platinum Mine, Limpopo Province.

Rehabilitation Projects

- Wetland and watercourse rehabilitation plan for the river crossing in the vicinity of the Olifants River on Kleinfontein Mine, Mpumalanga
- Thaba Mall terrestrial rehabilitation plan – guideline document for landscape rehabilitation, Thabazimbi, Limpopo Province.
- Rehabilitation plan for a portion of a borrow pit in the vicinity of Soshanguve, Gauteng
- Rehabilitation and management plan for the Mamelodi Hatherley 132 kv Power Line, City of Tshwane, Gauteng.

Environmental and Ecological Management Plans

- Environmental Management Plan for the Montana Tuine Erf 1611 & 1673 development, City of Tshwane, Gauteng.
- Ecological Management plan for the South Hills Mixed-use development, situated on Erf 1202 South Hills, Holding 88 of the Farm Klipriviersberg Estate Small Holding A.H. and Portion 65 (a portion of Portion 7) of the Farm Klipriviersberg 106-IR, South Hills (Moffat Park), Johannesburg, Gauteng.
- Environmental management plan for Erf 275, Meerhof township, Hartbeespoort dam, North West Province.

Environmental Control Officer

- Monthly specialist Environmental Control Officer (ECO) function to oversee the implementation of the wetland and watercourse rehabilitation plan for the river crossing in the vicinity of the Olifants River on Kleinfontein Mine, Mpumalanga.
- Monthly specialist Environmental Control Officer (ECO) for the monitoring of wetland and ecological



impacts on Portion 16 of the Farm Zondagsvlei 9-IS, Ogies, Mpumalanga.

- Monthly specialist Environmental Control Officer (ECO) function to oversee the implementation of the rehabilitation and management plan for the Klipkruisfontein development site, Shoshanguwe, Gauteng.

Plant Rescue and Relocation

- Report on the rescue and relocation of *Hypoxis hemerocallidea* adjacent to Lanseria Airport, Johannesburg, Gauteng.
- Report on the rescue of *Hypoxis hemerocallidea*, *Boophane disticha* and various other floral species at the mall of the south development site, Alberton, Gauteng.
- Report on the rescue and relocation of *Hypoxis hemerocallidea* at Forest Hill City – Phase 1, Monavoni x58, Gauteng.

Terrestrial Monitoring

- Terrestrial monitoring programme for Glencore Xstrata Eland Platinum Mine, North West Province.
- Terrestrial monitoring programme for Xstrata Boshhoek, North West Province.

Visual Impact Assessments

- Visual impact assessment as part of the environmental assessment and authorisation process for the proposed Argent Colliery, Mpumalanga.
- Visual Impact Assessment as part of the EIA process for the proposed upgrade of the Zonderwater Prison Waste Water Treatment Works in the vicinity of Cullinan, Gauteng.
- Visual Impact Assessment as part of the EIA process for the proposed Springboklaagte Colliery, Mpumalanga.





SCIENTIFIC AQUATIC SERVICES (SAS) – SPECIALIST CONSULTANT INFORMATION

CURRICULUM VITAE OF **STEPHEN VAN STADEN**

PERSONAL DETAILS

Position in Company	Managing member, Ecologist, Aquatic Ecologist
Date of Birth	13 July 1979
Nationality	South African
Languages	English, Afrikaans
Joined SAS	2003 (year of establishment)

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)
 Accredited River Health practitioner by the South African River Health Program (RHP)
 Member of the South African Soil Surveyors Association (SASSO)
 Member of the Gauteng Wetland Forum

EDUCATION

Qualifications

MSc (Environmental Management) (University of Johannesburg)	2002
BSc (Hons) Zoology (Aquatic Ecology) (University of Johannesburg)	2000
BSc (Zoology, Geography and Environmental Management) (University of Johannesburg)	1999

COUNTRIES OF WORK EXPERIENCE

South Africa – All Provinces
 Southern Africa – Lesotho, Botswana, Mozambique, Zimbabwe
 Eastern Africa – Tanzania
 West Africa – Ghana, Liberia, Angola, Guinea Bissau
 Central Africa – Democratic Republic of the Congo

SELECTED PROJECT EXAMPLES



Development compliance studies

- Project co-leader for the development of the EMP for the use of the Wanderers stadium for the Ubuntu village for the World Summit on Sustainable Development (WSSD).
- Environmental Control Officer for Eskom for the construction of an 86Km 400KV power line in the Rustenburg Region.
- Numerous Environmental Impact Assessment (EIA) and EIA exemption applications for township developments and as part of the Development Facilitation Act requirements.
- EIA for the extension of mining rights for a Platinum mine in the Rustenburg area by Lonmin Platinum.
- EIA Exemption application for a proposed biodiesel refinery in Chamdor.
- Compilation of an EIA as part of the Bankable Feasibility Study process for proposed mining of a gold deposit in the Lofa province, Liberia.
- EIA for the development of a Chrome Recovery Plant at the Two Rivers Platinum Mine in the Limpopo province, South Africa.
- Compilation of an EIA as part of the Bankable Feasibility Study process for the Mooihoek Chrome Mine in the Limpopo province, South Africa.
- Mine Closure Plan for the Vlakfontein Nickel Mine in the North West Province.

Specialist studies and project management

- Development of a zero discharge strategy and associated risk, gap and cost benefit analyses for the Lonmin Platinum group.
- Development of a computerised water balance monitoring and management tool for the management of Lonmin Platinum process and purchased water.
- The compilation of the annual water monitoring and management program for the Lonmin Platinum group of mines.
- Analyses of ground water for potable use on a small diamond mine in the North West Province.
- Project management and overview of various soil and land capability studies for residential, industrial and mining developments.
- The design of a stream diversion of a tributary of the Olifants River for a proposed opencast coal mine.
- Waste rock dump design for a gold mine in the North West province.
- Numerous wetland delineation and function studies in the North West, Gauteng and Mpumalanga Kwa-Zulu Natal provinces, South Africa.
- Hartebeespoort Dam Littoral and Shoreline PES and rehabilitation plan.
- Development of rehabilitation principles and guidelines for the Crocodile West Marico Catchment, DWAF North West.

Aquatic and water quality monitoring and compliance reporting

- Development of the Resource quality Objective framework for Water Use licensing in the Crocodile West Marico Water management Area.
- Development of the Resource Quality Objectives for the Local Authorities in the Upper Crocodile West Marico Water management Area.
- Development of the 2010 State of the Rivers Report for the City of Johannesburg.
- Development of an annual report detailing the results of the Lonmin Platinum groups water monitoring program.
- Development of an annual report detailing the results of the Everest Platinum Mine water monitoring program.
- Initiation and management of a physical, chemical and biological monitoring program, President Steyn Gold Mine Welkom.
- Aquatic biomonitoring programs for several Xstrata Alloys Mines and Smelters.
- Aquatic biomonitoring programs for several Anglo Platinum Mines.



- Aquatic biomonitoring programs for African Rainbow Minerals Mines.
- Aquatic biomonitoring programs for several Assmang Chrome Operations.
- Aquatic biomonitoring programs for Petra Diamonds.
- Aquatic biomonitoring programs for several coal mining operations.
- Aquatic biomonitoring programs for several Gold mining operations.
- Aquatic biomonitoring programs for several mining operations for various minerals including iron ore, and small platinum and chrome mining operations.
- Aquatic biomonitoring program for the Valpre bottled water plant (Coca Cola South Africa).
- Aquatic biomonitoring program for industrial clients in the paper production and energy generation industries.
- Aquatic biomonitoring programs for the City of Tshwane for all their Waste Water Treatment Works.
- Baseline aquatic ecological assessments for numerous mining developments.
- Baseline aquatic ecological assessments for numerous residential commercial and industrial developments.
- Baseline aquatic ecological assessments in southern, central and west Africa.

Wetland delineation and wetland function assessment

- Wetland biodiversity studies for three copper mines on the copper belt in the Democratic Republic of the Congo.
- Wetland biodiversity studies for proposed mining projects in Guinea Bissau, Liberia and Angola in West Africa.
- Terrestrial and wetland biodiversity studies for developments in the mining industry.
- Terrestrial and wetland biodiversity studies for developments in the residential commercial and industrial sectors.
- Development of wetland riparian resource protection measures for the Hartbeespoort Dam as part of the Harties Metsi A Me integrated biological remediation program.
- Priority wetland mammal species studies for numerous residential, commercial, industrial and mining developments throughout South Africa.

Terrestrial ecological studies and biodiversity studies

- Development of a biodiversity offset plan for Xstrata Alloys Rustenburg Operations.
- Biodiversity Action plans for numerous mining operations of Anglo Platinum throughout South Africa in line with the NEMBA requirements.
- Biodiversity Action plans for numerous mining operations of Assmang Chrome throughout South Africa in line with the NEMBA requirements.
- Biodiversity Action plans for numerous mining operations of Xstrata Alloys and Mining throughout South Africa in line with the NEMBA requirements.
- Biodiversity Action plan for the Nkomati Nickel and Chrome Mine Joint Venture.
- Terrestrial and wetland biodiversity studies for three copper mines on the copperbelt in the Democratic Republic of the Congo.
- Terrestrial and wetland biodiversity studies for proposed mining projects in Guinea Bissau, Liberia and Angola in West Africa.
- Numerous terrestrial ecological assessments for proposed platinum and coal mining projects.
- Numerous terrestrial ecological assessments for proposed residential and commercial property developments throughout most of South Africa.
- Specialist Giant bullfrog (*Pyxicephalus adspersus*) studies for several proposed residential and commercial development projects in Gauteng, South Africa.
- Specialist Marsh sylph (*Metisella meninx*) studies for several proposed residential and commercial development projects in Gauteng, South Africa.



- Project management of several Red Data Listed (RDL) bird studies with special mention of African grass owl (*Tyto capensis*).
- Project management of several studies for RDL Scorpions, spiders and beetles for proposed residential and commercial development projects in Gauteng, South Africa.
- Specialist assessments of terrestrial ecosystems for the potential occurrence of RDL spiders and owls.
- Project management and site specific assessment on numerous terrestrial ecological surveys including numerous studies in the Johannesburg-Pretoria area, Witbank area, and the Vredefort dome complex.
- Biodiversity assessments of estuarine areas in the Kwa-Zulu Natal and Eastern Cape provinces.
- Impact assessment of a spill event on a commercial maize farm including soil impact assessments.

Fisheries management studies

- Tamryn Manor (Pty.) Ltd. still water fishery initiation, enhancement and management.
- Verlorenkloof Estate fishery management strategising, fishery enhancement, financial planning and stocking strategy.
- Mooifontein fishery management strategising, fishery enhancement and stocking programs.
- Wickams retreat management strategising.
- Gregg Brackenridge management strategising and stream recalibration design and stocking strategy.
- Eljira Farm baseline fishery study compared against DWAF 1996 aquaculture and aquatic ecosystem guidelines.



APPENDIX E
PUBLIC PARTICIPATION

APPENDIX E1

**PLACEMENT OF THE RELEVANT
ADVERTISEMENTS AND SITE NOTICES**

APPENDIX E1.1


NEWSPAPER ADVERTISEMENT

**(Please note tear sheets to be attached in the Final
Consultation BAR)**

APPENDIX E1.2
SITE NOTICES

**NOTICE OF A BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED
DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2)
7 KM LONG 88 kV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN
AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE**

DEA REF NO: TBA

PROJECT NATURE	<p>Notice is hereby given in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA) as amended, and the National Water Act (No. 36 of 1998) of Eskom Holdings (SoC) Pty Ltd ('Eskom') intention to carry out listed activities requiring Environmental Authorisation from the National Department of Environmental Affairs and a Water Use Licence from the Department of Water and Sanitation.</p> <p>Eskom proposes to carry out the activities below:</p> <ul style="list-style-type: none"> • The dismantling of the existing double circuit 7 km 88 kV power line between Grootpan and Brakfontein; and • The establishment of two new 7 km 88 kV power lines between Grootpan and Brakfontein. <p>A Basic Assessment study will be conducted as per EIA Regulations (2014). The following activities will be triggered:</p> <ul style="list-style-type: none"> • GN R.983 Listing Notice 1: Activity 11, 12, 19 & 31; and • GN R.985 Listing Notice 3: 14. <p>The following water uses will be triggered in terms of the National Water Act (No. 36 of 1998):</p> <ul style="list-style-type: none"> • Section 21(c) – Impeding or diverting the flow of water in a watercourse; and • Section 21(i) – Altering the bed, banks, course or characteristics of a watercourse.
NAME OF PROPONENT	Eskom Holdings (SOC) Limited
LOCATION	The study area is situated in the eMalahleni Local Municipality in Mpumalanga, within close proximity to the town of Ogies. The study area falls between Grootpan and Brakfontein.
HOW TO REGISTER	<p>Royal HaskoningDHV has been appointed by Eskom as independent Environmental Assessment Practitioner (EAP) responsible for undertaking the Environmental Authorisation application and the associated Public Participation Process (PPP) processes.</p> <p>You are invited to register as an Interested and Affected Party (I&AP) or request additional information, by contacting the Royal HaskoningDHV consultants on the details provided below.</p>
PUBLIC PARTICIPATION CONSULTANT	<p>Sibongile Hlomuka PO Box 867 Gallo Manor 2052 Tel: +27 (0) 11 798 6000 Fax: +27 (0) 11 798 6005 Email: sibongile.hlomuka@rhdhv.com</p> <div align="right">  </div>
DATE OF NOTICE	June 2015



Dirt Access Road from R545



G&P Scrap Metals along the R545

NOTICE OF A BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED
 DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2)
 17.5KV LINES BY 3KV POWER LINES WITHIN A LINE CORRIDOR BETWEEN GROOTSTRAAT
 AND BRAAKFONTEIN NEAR OORDE, MPUMALANGA PROVINCE

DEA REF NO: TBA

PROJECT LOCATION:
 The project is located on the site of the existing 17.5KV power line and 3KV power lines within a line corridor between Grootstraat and Braakfontein near Oorde, Mpumalanga Province.

PROJECT PURPOSE:
 The purpose of the project is to dismantle the existing 17.5KV power line and construct two (2) 17.5KV power lines by 3KV power lines within a line corridor between Grootstraat and Braakfontein near Oorde, Mpumalanga Province.

DATE OF NOTICE:
 17 June 2014

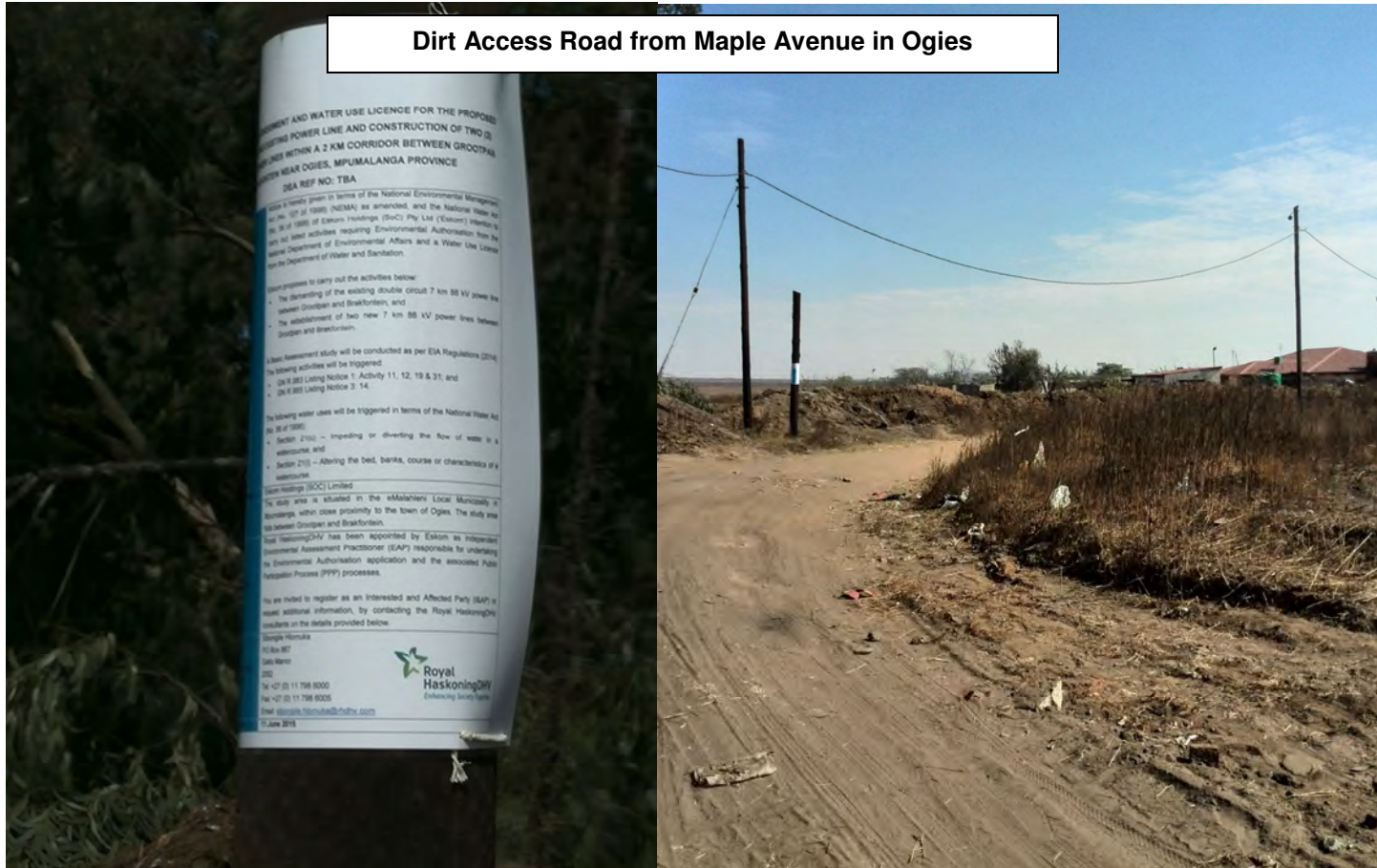
ROYAL HASKINGDHV

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 Reg No: 2008/129888/23
 Tel/Fax: 013 697 1033

E-mail: bezuidenhoutmetals@gmail.com

Dirt Access Road from Maple Avenue in Ogies



ENVIRONMENT AND WATER USE LICENCE FOR THE PROPOSED
7 KM 88 KV POWER LINE AND CONSTRUCTION OF TWO 20
KV FEEDER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTBOS
AND GROENBOS NEAR OGIES, MPUMALANGA PROVINCE
DESA REF NO: TBA

Escom is hereby given in terms of the National Environmental Management Act (Act 107 of 1989) (NEMA), as amended, and the National Water Act (Act 36 of 1956) of Eskom Holdings (Soc) Pty Ltd (Eskom) permission to carry out the listed activities requiring Environmental Authorisation from the National Department of Environmental Affairs and a Water Use Licence from the Department of Water and Sanitation.

Escom proposes to carry out the activities below:

- The dismantling of the existing double circuit 7 km 88 KV power line between Groenbos and Braakfontein, and
- The establishment of two new 7 km 88 KV power lines between Groenbos and Braakfontein.

A Basin Assessment study will be conducted as per EIA Regulations (2014)

The following activities will be triggered:

- GN 6 2002 Listing Notice 1 Activity 11, 12, 19 & 31; and
- GN 6 2002 Listing Notice 3, 14.

The following water uses will be triggered in terms of the National Water Act (Act 36 of 1956):

- Section 21(2) - Impeding or diverting the flow of water in a watercourse, and
- Section 21(3) - Altering the bed, banks, course or characteristics of a watercourse.

Eskom Holdings (Soc) Limited

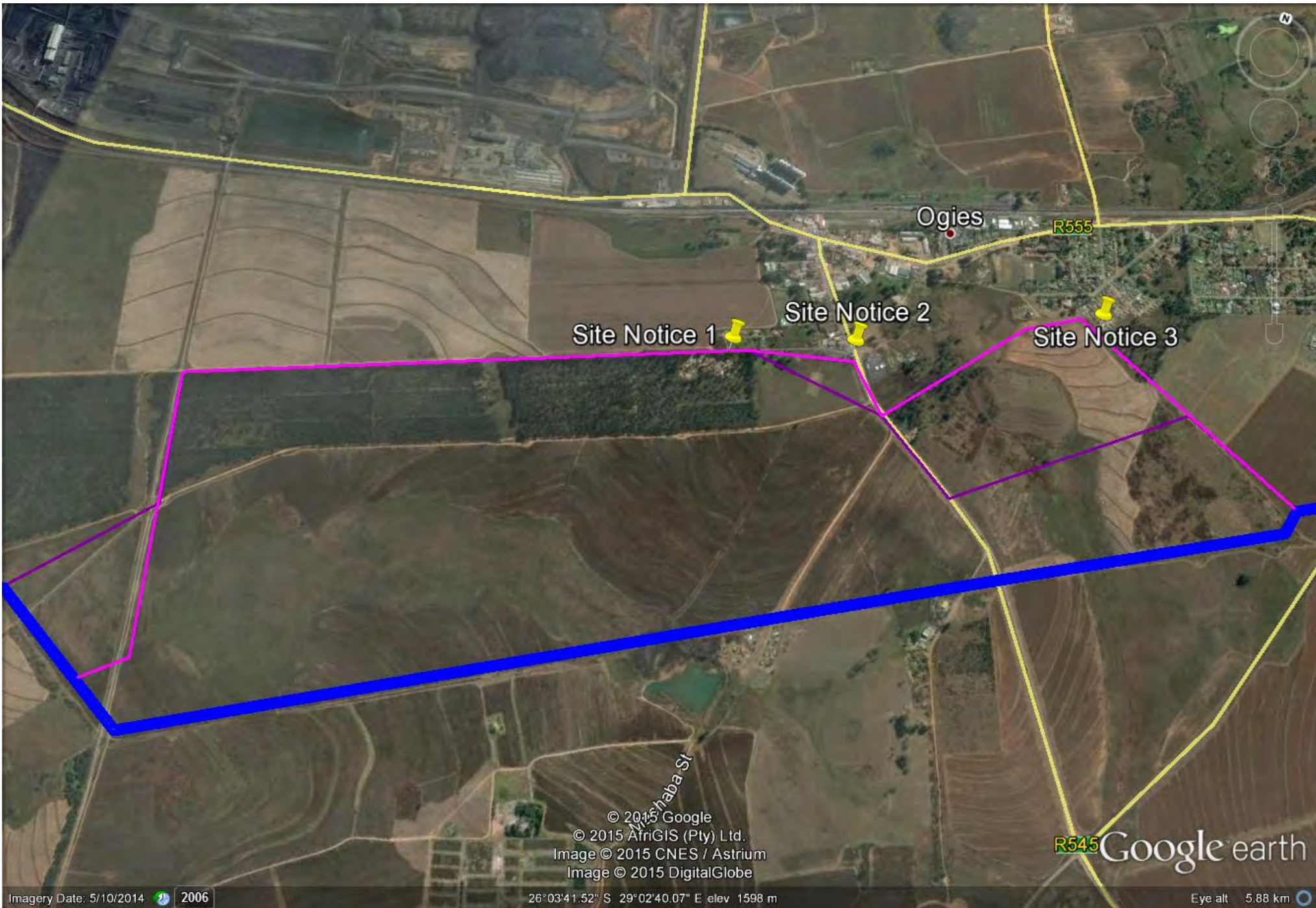
The study area is situated in the eMalaheni Local Municipality in the townships of Ogies, within close proximity to the town of Ogies. The study area lies between Groenbos and Braakfontein.

Royal HaskoningDHV has been appointed by Eskom as independent Environmental Assessment Practitioner (EAP) responsible for undertaking the Environmental Authorisation application and the associated Public Participation Process (PPP) processes.

You are invited to register as an Interested and Affected Party (IAP) or request additional information, by contacting the Royal HaskoningDHV consultants on the details provided below.

Royal HaskoningDHV
111 Du Toit Street
Sandton
2013
Tel: +27 (0) 11 798 8000
Fax: +27 (0) 11 798 8005
Email: ogies@royal-haskoningdhv.com
15 June 2016





Site Notice 1

Site Notice 2

Site Notice 3

Ogies

R555

R545

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Google earth

Imagery Date: 5/10/2014 2006

26°03'41.52" S 29°02'40.07" E elev 1598 m

Eye alt 5.88 km

APPENDIX E2
PROOF OF NOTIFICATION TO KEY
STAKEHOLDERS

Nicole Botham

From: Sibongile Hlomuka
Sent: 09 June 2015 04:33 PM
To: franskrige@telkomsa.net
Cc: Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province
Attachments: Introduction Letter to MTPA 9 June 2015.pdf; BID_June 2015.pdf



Dear Frans,


Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province.

Kind Regards
Sibongile Hlomuka
Senior Public Participation Consultant

T +27 (0) 11 7986000 | **D** 011 798 6429 | **M** 076 250 5416 | **E** Sibongile.Hlomuka@rhdhv.com | **W** www.rhdhv.co.za

Royal HaskoningDHV (Pty) Ltd trading as Royal HaskoningDHV | Reg No. 1966/001916/07
Building No. 5 Country Club Estate, 21 Woodlands Drive, Woodmead, 2191
PO Box 867, Gallo Manor, 2052, Gauteng, South Africa



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Nicole Botham

From: Sibongile Hlomuka
Sent: 09 June 2015 04:38 PM
To: Armand.LaGrange@glencore.co.za
Cc: Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province
Attachments: Introduction Letter to IAP - 9 June 2015.pdf; BID_June 2015.pdf



Dear Armand La Grange,


Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province.

Kind Regards
Sibongile Hlomuka
Senior Public Participation Consultant

T +27 (0) 11 7986000 | D 011 798 6429 | M 076 250 5416 | E Sibongile.Hlomuka@rhdhv.com | W www.rhdhv.co.za

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Nicole Botham

From: Sibongile Hlomuka
Sent: 09 June 2015 04:06 PM
To: nkunam@iucma.co.za
Cc: ShabanguS2@dwa.gov.za; Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalnaga Province
Attachments: Introduction Letter to IUCMA 9 June 2015.pdf; BID_June 2015.pdf



Dear Mduduzi,

Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalnaga Province.

Regards
Sibongile Hlomuka
Senior Public Participation Consultant

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Date: **09 June 2015**

Mr. Frans Krige
Mpumalanga Tourism and Parks Agency
P.O.Box 98,
Dullstroom
1110

Dear Frans Krige

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

Notice is hereby given in terms of the National Environmental Management Act, 1998 (No 107 of 1998) (as amended), the Environmental Impact Assessment Regulations (2014), the the National Water Act (No 36 of 1998) that Eskom Holdings (SoC) Pty Ltd (Eskom Distribution – Mpumalanga Operating Unit) intends submitting an application for environmental authorisation to the Department of Environmental Affairs (DEA) as well a Water Use Licence Application (WULA) to the Department of Water and Sanitation (DWS) for the above project.

Eskom Distribution (Mpumalanga Operating Unit) proposes to construct two (2) 7 km long 88 kV (Loop In-Loop Out) power lines within a 2 km corridor between Grootpan and Brakfontein near Ogies. The existing power lines are located on GlencoreXstrata mining property and need to be dismantled. The mine has requested that Eskom relocate the lines as they are within the operational footprint of the mine. These lines will ensure continuity of supply and access to electricity for the surrounding communities.

Royal HaskoningDHV Pty Ltd (Royal HaskoningDHV) has been appointed by Eskom as an Independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment study and Public Participation (PP) Process for the proposed project. The PP Process entails informing the local authorities, Interested and Affected Parties (I&APs), key stakeholders and landowners about the proposed project.

A Background Information Document (BID), including a comment and registration form and a locality map is attached for your information.

Royal HaskoningDHV (Pty) Ltd trading as Royal HaskoningDHV
Reg No. 1966/001916/07

PO Box 867 Gallo Manor 2052 Gauteng South Africa
Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191
Tel: +27 (0) 11 7986000 Fax: +27 (0) 11 7986005 | johannesburg@rhdhv.com www.rhdhv.co.za
Directors: SW Sithole (MD) | MP Makama | E Oostwegel (Dutch) | JM de Bakker (Dutch)
|V Johannessen (Norwegian) | SP Katide | N Bhojaram

Kind regards
Sibongile Hlomuka
Social Development and Public Participation Consultant
Tel: 011 798-6010 / Fax: 011 798 6010
Email: Sibongile.hlomuka@rhdhv.com

Date: **09 June 2015**

Armand La Grange
Glencore Operations South Africa PTY (Ltd)
Private Bag X 17
Leraatsfontein
1038

Dear Armand La Grange

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

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Eskom Distribution (Mpumalanga Operating Unit) proposes to construction two (2) 7 km long 88 kV (Loop In-Loop Out) power lines within a 2 km corridor between Grootpan and Brakfontein near Ogies. The existing power lines are located on GlencoreXstrata mining property and need to be dismantled. The mine has requested that Eskom relocate the lines as they are within the operational footprint of the mine. These lines will ensure continuity of supply and access to electricity for the surrounding communities.

Royal HaskoningDHV Pty Ltd (Royal HaskoningDHV) has been appointed by Eskom as an Independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment study and Public Participation (PP) Process for the proposed project. The PP Process entails informing the local authorities, Interested and Affected Parties (I&APs), key stakeholders and landowners about the proposed project.

Please find attached herewith the project Background Information Document (BID) which provides you with more information regarding the proposed project and PP process to be undertaken. Also attached is a registration and comment form for you to complete, in order to be registered as an I&AP on the project database and to receive further information.

Please contact the under-mentioned should you require more information on the project:

Sibongile Hlomuka
Royal HaskoningDHV
PO Box 867
Gallo Manor
2052
Tel: 011 798 6001

Royal HaskoningDHV (Pty) Ltd trading as Royal HaskoningDHV
Reg No. 1966/001916/07

Fax: 011 798 6005

Email: Sibongile.hlomuka@rhdhv.com

Royal HaskoningDHV would like to thank you in advance, for taking part in the public participation process and is looking forward to receiving your valuable comments relating to the proposed project.

Kind regards

Sibongile Hlomuka

Social Development and Public Participation Consultant

Royal HaskoningDHV

Date: **09 June 2015**

Mr. Mduduzi Nkuna
Inkomati-Usuthu Catchment Management Agency (IUCMA)
Private Bag X 11214,
Mbombela
1200

Dear Mr.Nkuna

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

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A Background Information Document (BID), including a comment and registration form and a locality map is attached for your information.

Royal HaskoningDHV (Pty) Ltd trading as Royal HaskoningDHV
Reg No. 1966/001916/07

PO Box 867 Gallo Manor 2052 Gauteng South Africa
Building No. 5 Country Club Estate 21 Woodlands Drive Woodmead 2191
Tel: +27 (0) 11 7986000 Fax: +27 (0) 11 7986005 | johannesburg@rhdhv.com www.rhdhv.co.za
Directors: SW Sithole (MD) | MP Makama | E Oostwegel (Dutch) | JM de Bakker (Dutch)
|V Johannessen (Norwegian) | SP Katide | N Bhojaram

Kind regards
Sibongile Hlomuka
Social Development and Public Participation Consultant
Tel: 011 798-6010 / Fax: 011 798 6010
Email: Sibongile.hlomuka@rhdhv.com

APPENDIX E3

COMMENTS & RESPONSES REPORT

**(Please note to be attached in the Final Consultation
BAR)**

APPENDIX E4
NOTIFICATION OF ORGANS OF STATE

Nicole Botham

From: Sibongile Hlomuka
Sent: 09 June 2015 04:29 PM
To: dtsawi@mpg.gov.za
Cc: cnmthimunye@mpg.gov.za; Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province
Attachments: Introduction Letter to MDEDET 9 June 2015.pdf; BID_June 2015.pdf



Dear Ms. Tswai,

Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province.

Kind Regards

Sibongile Hlomuka
Senior Public Participation Consultant

T +27 (0) 11 7986000 | D 011 798 6429 | M 076 250 5416 | E Sibongile.Hlomuka@rhdhv.com | W www.rhdhv.co.za

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Nicole Botham

From: Sibongile Hlomuka
Sent: 01 July 2015 12:26 PM
To: nkabindeej@emalahleni.gov.za
Cc: Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province
Attachments: Introduction Letter to Emalahleni LM - Mr Nkabinde.pdf; BID_June 2015.pdf



Dear Mr. Nkabinde ,

Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province.

A draft Environmental Basic Assessment report will be sent through to you for municipal comments. I will let you know when the commenting period will start.


Regards

Sibongile Hlomuka
Senior Public Participation Consultant

T +27 (0) 11 7986000 | **D** 011 798 6429 | **M** 076 250 5416 | **E** Sibongile.Hlomuka@rhdhv.com | **W** www.rhdhv.co.za

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Nicole Botham

From: Sibongile Hlomuka
Sent: 09 June 2015 04:26 PM
To: ShabanguS2@dwa.gov.za
Cc: Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province
Attachments: BID_June 2015.pdf; Introduction Letter to DWS 9 June 2015.pdf



Dear Mr. Shabangu,


Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province.

Kind Regards
Sibongile Hlomuka
Senior Public Participation Consultant

T +27 (0) 11 7986000 | D 011 798 6429 | M 076 250 5416 | E Sibongile.Hlomuka@rhdhv.com | W www.rhdhv.co.za

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Nicole Botham

From: Sibongile Hlomuka
Sent: 09 June 2015 04:46 PM
To: Aubrey.Tshivhandekano@dmr.gov.za
Cc: Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province
Attachments: Introduction Letter to DMR 9 June 2015.pdf; BID_June 2015.pdf



Dear Aubrey,


Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province.

Kind Regards
Sibongile Hlomuka
Senior Public Participation Consultant

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Nicole Botham

From: Sibongile Hlomuka
Sent: 01 July 2015 12:54 PM
To: malobam@dws.gov.za
Cc: Nicole Botham
Subject: Eskom Proposed Dismantling of Powerline and Construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province
Attachments: BID_June 2015.pdf; Introduction Letter to DWS - Ms. Maloba 01 July 15.pdf



Dear Mokgadi,


Please find the attached introduction letter and a background information document regarding the Eskom proposed Environmental Basic Assessment project which entails dismantling of power line and construction of 88KV between Grootpan and Brakfontein in Mpumalanga Province.

A draft Environmental Basic Assessment Report will be sent through to you for your comments. I will let you know of the commenting period we will appreciate to obtain comments from the department.

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Date: **09 June 2015**

Ms. Dineo Tswai
Mpumalanga Department of Economic Development
Environment and Tourism
Pavilion Centre
Cnr Botha and Northey streets
Witbank
1035

Dear Dineo Tswai

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

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|V Johannessen (Norwegian) | SP Katide | N Bhojaram

Kind regards
Sibongile Hlomuka
Social Development and Public Participation Consultant
Tel: 011 798-6010 / Fax: 011 798 6010
Email: Sibongile.hlomuka@rhdhv.com

Date: **01 July 2015**

Mr. E.J Nkabinde
Manager: Environmental Department
eMalahleni Local Municipality
PO Box 3
eMalahleni
1035

Dear Mr. Nkabinde ,

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

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Reg No. 1966/001916/07

We would appreciate if you can circulate the information attached on our behalf to the following departments:

- Corporate Services;
- Community Services ;
- Electrical Services;
- Planning Economic Development; and
- Office of the Executive Mayor.

Kind regards

Sibongile Hlomuka

Social Development and Public Participation Consultant

Tel: 011 798-6010 / Fax: 011 798 6010

Email: Sibongile.hlomuka@rhdhv.com

Date: **09 June 2015**

Mr. Sampie Shabangu
Department of Water and Sanitation
Prorum Building, 5th Floor
Cnr. Paul Kruger and Brown
Nelspruit
1200

Dear Sampie Shabangu

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

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Reg No. 1966/001916/07

Kind regards
Sibongile Hlomuka
Social Development and Public Participation Consultant
Tel: 011 798-6010 / Fax: 011 798 6010
Email: Sibongile.hlomuka@rhdhv.com

Date: **01 July 2015**

Ms. Mokgadi Maloba
Manager
Bronkhorstspuit DWS Regional Office
Private Bag X10580,
Bronkhorstspuit
1020

Dear Ms. Maloba

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

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Directors: SW Sithole (MD) | MP Makama | E Oostwegel (Dutch) | JM de Bakker (Dutch)
|V Johannessen (Norwegian) | SP Katide | N Bhojaram

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Royal HaskoningDHV
PO Box 867
Gallo Manor
2052
Tel: 011 798 6001
Fax: 011 798 6005
Email: Sibongile.hlomuka@rhdhv.com

Date: **09 June 2015**

Mr. Aubrey Tshivhandekano
Department of Minerals and Resources
Nelspruit
1200

Dear Mr. Tshivhandekano,

BASIC ASSESSMENT AND WATER USE LICENCE FOR THE PROPOSED DISMANTLING OF THE EXISTING POWER LINE AND CONSTRUCTION OF TWO (2) 7 KM LONG 88 KV POWER LINES WITHIN A 2 KM CORRIDOR BETWEEN GROOTPAN AND BRAKFORTEIN NEAR OGIES, MPUMALANGA PROVINCE

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Kind regards
Sibongile Hlomuka
Social Development and Public Participation Consultant
Tel: 011 798-6010 / Fax: 011 798 6010
Email: Sibongile.hlomuka@rhdhv.com

APPENDIX E5
LIST OF I&APS

Intrested and Affected Party Database

Name	Surname	Company	Position
Mr Theo	van Vuuren (Administr	Emalahleni local Municipality	Municipal Manager
Ward Cllr			
Eksteen, J	Eksteen	Mpumalanga Tourism & Parks Agency	NELSPRUIT
Mduduzi	Nkuna	Inkomati-Usuthu Catchment Management Agency(IUCMA)	
Aubrey	Tshivhandekano	Department Mineral Resources	EMALAHLENI
Pienaar, Stephan	Pienaar	Dept of Public Works, Roads & Transport	NELSPRUIT
Potts, Ricky	Potts	WESSA Lowveld	White River
Sampie	Shabangu	Deparment of Water and Sanitation	NELSPRUIT
Librarian		Witbank Library	
Dineo	Tswai	Mpumalanga Department of Agriculture, Rural Development, Land, and Environmental Affairs	Cnr Botha and Northey streets Witbank 1035
Frans	Krige	Mpumalanga Tourism and Parks Agency	
Armand	La Grange	Glencore Operations South Africa PTY (Ltd)	
Mr. Nhlanhla	Mkhonto	Glencore Operations South Africa PTY (Ltd)	

APPENDIX E6

MINUTES OF MEETINGS

**(Please note to be attached in the Final Consultation
BAR)**

APPENDIX F
IMPACT ASSESSMENT

Appendix F- Impact Assessment

IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

The following parameters are used to describe the impact/issues in this assessment:

1. **Nature**

A brief written statement of the environmental aspect being impacted upon by a particular action or activity.

2. **Extent**

The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact.

- **Site (1)** – Within the construction site.
- **Local (2)** – Within a radius of 2 km of the construction site.
- **Regional (3)** – the scale applies to impacts on a provincial level and parts of neighbouring provinces.
- **National (4)** – the scale applies to impacts that will affect the whole South Africa.

3. **Duration**

Indicates what the lifetime of the impact will be.

- **Short-term (1)** – less than 5 years.
- **Medium-term (2)** – between 5 and 15 years.
- **Long-term (3)** – between 15 and 30 years.
- **Permanent (4)** – over 30 years and resulting in a permanent and lasting change that will always be there.

4. **Intensity**

Describes whether an impact is destructive or benign.

- **Very High (4)** - Natural, cultural and social functions and processes are altered to extent that they permanently cease.
- **High (3)** - Natural, cultural and social functions and processes are altered to extent that they temporarily cease.
- **Moderate (2)** - Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way.

- **Low (1)** - Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.

5. Probability

Describes the likelihood of an impact actually occurring.

- **Improbable (1)** - Likelihood of the impact materialising is very low.
- **Possible (2)** - The impact may occur.
- **Highly Probable (3)** - Most likely that the impact will occur.
- **Definite (4)** - Impact will certainly occur.

6. Cumulative

In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

7. Significance

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Low impact (4 - 6 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium impact (7 - 9 points)	Mitigation is possible with additional design and construction inputs.
High impact (10 - 12 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very High impact (13 - 16 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.

1 Planning and Design

1.1 Dismantling of a portion of the existing line – Planning and Design

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
Direct			
<p>1. Fauna and Flora - Disruption to sensitive habitats and species within the vicinity of the existing line. One threatened or 'orange' listed plant, African Potato, <i>Hypoxis hemerocallidea</i> was recorded in a remnant patch of moist grassland under the existing Grootpan-Brakfontein power line servitude. The plant should not be impacted on during removal of the portion of the existing power line.</p>	<p>Extent: Local (-2) Duration: Medium-term (-2) Intensity: Low (-1) Probability: Highly Possible (-3) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> • General mitigation measures would include avoiding any physical damage to vegetation on the periphery of the proposed servitude as well as riparian vegetation. • Prior to construction and vegetation clearance a suitably qualified Environmental Control Officer (ECO) should closely examine the proposed construction areas (tower supports) for the presence of any animal burrows (including spiders and scorpions), rocky outcrops, logs, stumps and other debris and relocate any affected animals to appropriate habitat away from the servitude or tower. Special care should be taken not to damage or remove any such species unless absolutely necessary. • It is recommended that the developer and construction contractor as well as an independent 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>environmental control officer (ECO) should be made aware of the possible presence of certain threatened animal species (Giant Bullfrog, African Grass Owl, Lesser Flamingo, South African Hedgehog) prior to the commencement of construction activities. In the event that any of the above-mentioned species are discovered relevant conservation authorities should be informed and activities surrounding the site suspended until further investigations have been conducted.</p> <ul style="list-style-type: none"> Permits for removal must be obtained from Provincial Nature Conservation should the <i>Hypoxis hemerocallidea</i> be affected. 	
2. Wetlands - Work within wetlands and removal of riparian vegetation.	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: High (-3) Probability: Highly Probable (-3) Significance: Medium (-9)</p>	<ul style="list-style-type: none"> Work within wetlands and buffers and the removal of riparian vegetation must be subject to a Water Use Licence Application (WULA) and application for Environmental Authorisation (EA). The work within wetlands and riparian areas must comply with the conditions stipulated in the WUL and EA. 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)</p>
3. Avifauna - Habitat destruction.	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3)</p>	<ul style="list-style-type: none"> Of importance to note is that should any nests be found on the line that is to be removed a qualified avifaunal specialists must be consulted to 	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
	Significance: Medium (-8)	determine the significance of this. Of critical importance will be the avifaunal walk down to determine if there are any African Grass Owls on the site. Recommendations on dealing with the African Grass Owl will be given following this phase of the project.	Significance: Low (-6)
4. Avifauna – Disturbance on birds in the study area.	Extent: Local (-2) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-7)	<ul style="list-style-type: none"> Of importance to note is that should any nests be found on the line that is to be removed a qualified avifaunal specialists must be consulted to determine the significance of this. Of critical importance will be the avifaunal walk down to determine if there are any African Grass Owls on the site. Recommendations on dealing with the African Grass Owl will be given following this phase of the project. 	Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-5)
5. Heritage - Impacts on sites of heritage, cultural and archaeological significance. <ul style="list-style-type: none"> There are three recorded graveyard sites (Sites OG 4, 10 and 12) which were identified during the physical survey and with the help of previously located graveyards during heritage surveys. Site OG12 is located some distance (150 m) south-west of the existing power 	Extent: Site (-1) Duration: Long-term (-3) Intensity: Moderate (-2) Probability: Improbable (-1) Significance: Medium (-7)	<ul style="list-style-type: none"> Site OG12 (Graves and Burial Grounds) is located some distance (150 m) south-west of the existing power line and will not be affected by the proposed dismantling. Site OG8 (Mosque) will not be impacted upon during the dismantling activity as it is already fenced. 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>line and will not be affected by the proposed dismantling.</p> <ul style="list-style-type: none"> Another site which is considered to be of medium significance is Site OG8. This is a Mosque and although the building is not older than 60 years, it is regarded as being of social and religious significance. The remaining sites (OG 1-3, 9, 11 & 14) comprise of farm worker's dwellings and associated infrastructure and small villages which have all been demolished and rated low significance. They also include some sites which were recorded in an earlier heritage study but which have been demolished in the meantime (sites OG 9, 14). 			
Indirect Impacts			
None.			
Cumulative Impacts			
None.			

1.2 Alternative 1 (preferred) – Planning and Design

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
Direct			
1. Fauna and Flora – Disruption to sensitive habitats and species within the vicinity of the Alternative 1.	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)	<ul style="list-style-type: none"> • General mitigation measures would include avoiding any physical damage to vegetation on the periphery of the proposed servitude as well as riparian vegetation. • Prior to construction and vegetation clearance a suitably qualified Environmental Control Officer (ECO) should closely examine the proposed construction areas (tower supports) for the presence of any animal burrows (including spiders and scorpions), rocky outcrops, logs, stumps and other debris and relocate any affected animals to appropriate habitat away from the servitude or tower. Special care should be taken not to damage or remove any such species unless absolutely necessary. • It is recommended that the developer and construction contractor as well as an independent environmental control officer (ECO) should be made aware of the possible presence of certain threatened animal species (Giant Bullfrog, African Grass Owl, Lesser 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		Flamingo, South African Hedgehog) prior to the commencement of construction activities. In the event that any of the above-mentioned species are discovered relevant conservation authorities should be informed and activities surrounding the site suspended until further investigations have been conducted.	
2. Wetlands – Work within wetlands and removal of riparian vegetation.	Extent: Local (-2) Duration: Short-term (-1) Intensity: High (-3) Probability: Highly Probable (-3) Significance: Medium (-9)	<ul style="list-style-type: none"> Work within wetlands and buffers and the removal of riparian vegetation must be subject to a Water Use Licence Application (WULA) and application for Environmental Authorisation. The work within wetlands and riparian areas must comply with the conditions stipulated in the WUL and EA. 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)
3. Avifauna – Bird collisions.	Extent: Local (-2) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-8)	<ul style="list-style-type: none"> Mitigation for collisions involves routing the line correctly as well as installing anti-collision marking devices to the line where necessary. Areas that require anti-collision marking devices are indicated in the Sensitivity Map (Appendix A). These areas must be further refined during an avifaunal walk down. 	Extent: Local (-2) Duration: Short term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-6)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>4. Heritage – Impacts on sites of heritage, cultural and archaeological significance.</p> <ul style="list-style-type: none"> There are three recorded graveyard sites (Sites OG4, 10 and 12) which were identified during the physical survey and with the help of previously located graveyards during heritage surveys. Site OG10 is located some 150 m west of the proposed Alternative 1. Impact on the grave site is not envisaged as they are located far from the planned construction route. Two historic buildings (Sites OG7 and OG13) are rated with medium significance but both are located outside of the proposed construction routes. The remaining sites (OG3, 5, 6 &15) comprise of farm worker's dwellings and associated infrastructure and small villages which have all been demolished and rated low significance. 	<p>Extent: Site (-1) Duration: Long-term (-3) Intensity: Moderate (-2) Probability: Improbable (-1) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> Site OG10 (Graves and Burial Grounds) is located some 150 m west of the proposed Alternative 1. Impact on the grave site is not envisaged as they are located far from the planned construction route. Should the demolishing of the two historic buildings (Sites OG7 and OG13) be needed, permitted recording is recommended. 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>
Indirect Impacts			
None.			
Cumulative Impacts			

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
None.			

1.3 Alternative 2 – Planning and Design

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
Direct			
1. Fauna and Flora - Disruption to sensitive habitats and species within the vicinity of the Alternative 2.	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)	<ul style="list-style-type: none"> • General mitigation measures would include avoiding any physical damage to vegetation on the periphery of the proposed servitude as well as riparian vegetation. • Prior to construction and vegetation clearance a suitably qualified Environmental Control Officer (ECO) should closely examine the proposed construction areas (tower supports) for the presence of any animal burrows (including spiders and scorpions), rocky outcrops, logs, stumps and other debris and relocate any affected animals to appropriate habitat away from the servitude or tower. Special care should be taken not to damage or remove any such species unless absolutely necessary. • It is recommended that the developer and construction contractor as well as an independent environmental control officer (ECO) should be made aware of the possible presence of certain threatened animal species (Giant Bullfrog, African Grass Owl, Lesser 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		Flamingo, South African Hedgehog) prior to the commencement of construction activities. In the event that any of the above-mentioned species are discovered relevant conservation authorities should be informed and activities surrounding the site suspended until further investigations have been conducted.	
2. Wetlands - Work within wetlands and removal of riparian vegetation.	Extent: Local (-2) Duration: Short-term (-1) Intensity: High (-3) Probability: Highly Probable (-3) Significance: Medium (-9)	<ul style="list-style-type: none"> Work within wetlands and buffers and the removal of riparian vegetation must be subject to a Water Use Licence Application (WULA) and application for Environmental Authorisation. The work within wetlands and riparian areas must comply with the conditions stipulated in the WUL and EA. 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)
3. Avifauna - Bird collisions.	Extent: Local (-2) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-8)	<ul style="list-style-type: none"> Mitigation for collisions involves routing the line correctly as well as installing anti-collision marking devices to the line where necessary. Areas that require anti-collision marking devices are indicated in the Sensitivity Map (Appendix A). These areas must be further refined during an avifaunal walk down. 	Extent: Local (-2) Duration: Short term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-6)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>4. Heritage - Impacts on sites of heritage, cultural and archaeological significance.</p> <ul style="list-style-type: none"> There are three recorded graveyard sites (Sites OG 4, 10 and 12) which were identified during the physical survey and with the help of previously located graveyards during heritage surveys. Site OG10 is located approximately 70 m north of planned Alternative 2. Impact on the grave site is not envisaged as they are located far from the planned construction routes. One historic building (Site OG13) is rated with medium significance but located outside of the proposed construction routes. The remaining sites (OG3, 5, 6 & 15) comprise of farm worker's dwellings and associated infrastructure and small villages which have all been demolished and rated low significance. 	<p>Extent: Site (-1) Duration: Long-term (-3) Intensity: Moderate (-2) Probability: Improbable (-1) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> Site OG10 (Graves and Burial Grounds) is located approximately 70 m north of planned Alternative 2. Impact on the grave site is not envisaged as they are located far from the planned construction routes. Should the demolishing of the one historic building (Site OG13) be needed, permitted recording is recommended. 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>
Indirect Impacts			
None.			
Cumulative Impacts			

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
None.			

1.4 Alternative 3 – Planning and Design

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
Direct			
1. Fauna and Flora - Disruption to sensitive habitats and species within the vicinity of the Alternative 3.	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)	<ul style="list-style-type: none"> • General mitigation measures would include avoiding any physical damage to vegetation on the periphery of the proposed servitude as well as riparian vegetation. • Prior to construction and vegetation clearance a suitably qualified Environmental Control Officer (ECO) should closely examine the proposed construction areas (tower supports) for the presence of any animal burrows (including spiders and scorpions), rocky outcrops, logs, stumps and other debris and relocate any affected animals to appropriate habitat away from the servitude or tower. Special care should be taken not to damage or remove any such species unless absolutely necessary. • It is recommended that the developer and construction contractor as well as an independent environmental control officer (ECO) should be made aware of the possible presence of certain threatened animal species (Giant Bullfrog, African Grass Owl, Lesser 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		Flamingo, South African Hedgehog) prior to the commencement of construction activities. In the event that any of the above-mentioned species are discovered relevant conservation authorities should be informed and activities surrounding the site suspended until further investigations have been conducted.	
2. Wetlands - Work within wetlands and removal of riparian vegetation.	Extent: Local (-2) Duration: Short-term (-1) Intensity: High (-3) Probability: Highly Probable (-3) Significance: Medium (-9)	<ul style="list-style-type: none"> Work within wetlands and buffers and the removal of riparian vegetation must be subject to a Water Use Licence Application (WULA) and application for Environmental Authorisation. The work within wetlands and riparian areas must comply with the conditions stipulated in the WUL and EA. 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-5)
3. Avifauna - Bird collisions.	Extent: Local (-2) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-8)	<ul style="list-style-type: none"> Mitigation for collisions involves routing the line correctly as well as installing anti-collision marking devices to the line where necessary. Areas that require anti-collision marking devices are indicated in the Sensitivity Map (Appendix A). These areas must be further refined during an avifaunal walk down. 	Extent: Local (-2) Duration: Short term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-6)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>4. Heritage - Impacts on sites of heritage, cultural and archaeological significance.</p> <ul style="list-style-type: none"> • There are three recorded graveyard sites (Sites OG 4, 10 and 12) which were identified during the physical survey and with the help of previously located graveyards during heritage surveys. The new planned Alternative 3 is located approximately 100 m south of Site OG4 and across the road R545 to the west of the graveyard (west of the road). • One historic building (Site OG7) is rated with medium significance but located outside of the proposed construction routes. • The remaining sites (OG6 & 15) comprise of farm worker's dwellings and associated infrastructure and small villages which have all been demolished and rated low significance. 	<p>Extent: Local (-2) Duration: Long-term (-3) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-9)</p>	<ul style="list-style-type: none"> • To minimise possible impact on the Site OG4 (Graves and Burial Grounds) it is recommended that the graveyard be fenced and any surviving relatives be allowed access. • Should the demolishing of the one historic building (Site OG7) be needed, permitted recording is recommended. 	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible(-2) Significance: Low (-6)</p>
Indirect Impacts			
None.			
Cumulative Impacts			

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
None.			

2 Construction/Dismantling

2.1 Dismantling of a portion of the existing line

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
Direct			
1. Soils - Disruption of surface soils. Erosion and sediment from removed towers/structures.	Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)	<ul style="list-style-type: none"> Disturbed areas of natural grassland vegetation around the removed and towers and riparian areas must be rehabilitated immediately to prevent soil erosion. No vehicles should be allowed to cross rivers or streams in any area other than an approved crossing, taking care to prevent any impact (particularly erosion) in surrounding habitat. As far as possible, all construction activities should occur in the low flow season, during the drier winter months. Sheet runoff from access roads should be slowed down by the strategic placement of berms. Remove and store topsoil separately in areas where excavation/degradation takes place. Topsoil should be used for rehabilitation purposes in order to 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		facilitate re-growth of species that occur naturally in the area.	
<p>2. Wetlands – Loss of wetland habitat and ecological structure due to:</p> <ul style="list-style-type: none"> • Dismantling of power lines within wetland areas, and specifically within wetland FEPAs; • The development of access routes for dismantling purposes through wetland areas; • Dumping of waste materials, including waste material spills and refuse deposits into wetland areas; • Placement of construction lay-down areas within wetland areas; • Clearing of wetland vegetation during dismantling; • Earthworks in the vicinity of wetland areas leading to increased runoff and erosion and altered runoff patterns; • Topsoil and other stockpiling adjacent to wetlands and runoff from stockpiles leading to changes in wetland habitat; and • Inadequate management of edge effects during dismantling. 	<p>Extent: Local (-2) Duration: Medium-term (-2) Intensity: High (-3) Probability: Highly Probable (-3) Significance: High (-10)</p>	<ul style="list-style-type: none"> • Wetland buffer areas should be physically demarcated on site and it must be ensured that these areas are off limits during the dismantling activities, except for essential equipment and vehicles required. • No indiscriminate driving through the wetland areas may take place during the dismantling procedure. • During dismantling activities, the footprint area must be clearly demarcated on site and construction workers, vehicles, equipment and material, as well as dismantled infrastructure may not encroach beyond this area. • Material stockpiling is to take place within the designated footprint areas and may not encroach on surrounding natural vegetation and wetland and wetland buffer areas. • Only a single access road may be used for dismantling activities, preferably within a more disturbed area or along existing roads and tracks. All vehicles are to remain within the designated vehicle tracks. • Clearing of vegetation for dismantling purposes must be kept 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Low (-6)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>to a minimum.</p> <ul style="list-style-type: none"> Invasive alien floral species in the vicinity of existing power lines must be manually removed and controlled during the operational phase. No littering, waste disposal or other pollution may take place within wetland areas during the dismantling procedure. Failure to implement a rehabilitation plan within disturbed wetland areas. 	
<p>3. Wetlands - Changes to wetland ecological and socio-cultural service provision:</p> <ul style="list-style-type: none"> Dismantling of power line infrastructure within wetland and wetland buffer areas; Site clearing and the removal of vegetation leading to increased runoff and erosion and consequent sedimentation of wetland areas; Movement of construction vehicles within wetland areas; Dumping of waste into the wetland areas or spillage from construction vehicles; and Inadequate management of edge effects during construction. 	<p>Extent: Local (-2) Duration: Medium-term (-2) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> Physically demarcate wetland buffer areas on site and ensure that these areas are off limits during the construction phase of the development. Ensure that no incision and canalisation of the wetland resource takes place as a result of dismantling activities. Flow connectivity along the wetland resources should be maintained through preventing fragmentation of wetland areas. As far as possible, all construction activities should occur in the low flow season, during the drier winter months, in order to decrease the potential for erosion and sedimentation caused by rainfall. 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Low (-6)</p>
<p>4. Wetlands - Impacts on wetland hydrology and sediment balance:</p>	<p>Extent: Local (-2) Duration: Medium-term (-2)</p>	<ul style="list-style-type: none"> Erosion berms should be installed in any areas where soil disturbances 	<p>Extent: Site (-1) Duration: Short-term (-1)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<ul style="list-style-type: none"> • Site clearing and the removal of vegetation leading to increased runoff and erosion; • Construction activities, including power line dismantling within wetland areas; • Site clearing and the disturbance of soils leading to increased erosion; • Earthworks in the vicinity of wetland areas leading to increased runoff and erosion and altered runoff patterns; • Topsoil stockpiling adjacent to wetlands and runoff from stockpiles leading to sedimentation of the system; • Movement of construction vehicles within wetlands; and • Dumping of waste into the wetland areas. 	<p>Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-8)</p>	<p>within the vicinity of the wetland systems have occurred to prevent gully formation and siltation of the aquatic resources. The following points should serve to guide the placement of erosion berms:</p> <ul style="list-style-type: none"> – Where the track has slope of less than 2%, berms every 50 m should be installed; – Where the track slopes between 2% and 10%, berms every 25 m should be installed; and – Where the track slopes between 10%-15%, berms every 20 m should be installed. <ul style="list-style-type: none"> • Restrict construction to the drier summer months if possible to avoid sedimentation. • Should it be necessary to construct on slopes, it must be ensured that the necessary erosion prevention measures are put in place • No vehicular or pedestrian movement may take place in areas where erosion is already present. 	<p>Intensity: Moderate (-2) Probability: Possible (-2) Significance: Low (-6)</p>
<p>5. Avifauna - Impact of disturbance on birds in the study area.</p>	<p>Extent: Local (-2) Duration: Short-Term (-1) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> • Care should be taken after the completion of construction during onsite maintenance activities. Of importance to note is that should any nests be found on the line that is to be removed a qualified avifaunal specialists must be consulted to 	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-5)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		determine the significance of this.	
<p>6. Ecology - Habitat destruction with transformation of natural vegetation and habitats within the dismantling study area.</p>	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-6)</p>	<ul style="list-style-type: none"> • During the construction phase workers must be limited to areas under construction and the existing servitude during the removal of existing lines and access to the undeveloped areas, especially the surrounding open grassland and valley bottom wetlands areas. • All temporary stockpile areas including litter and dumped material and rubble must be removed on completion of construction. The dismantled towers and power line must be removed from the site. All alien invasive plant should be removed from the existing servitudes to prevent further invasion. • Vehicle access to the power line servitude must as far as possible be limited to existing roads. • No dumping of any materials in undeveloped open areas and neighbouring properties. Activities in the surrounding open undeveloped areas (especially open grasslands and valley bottom wetlands) must be strictly regulated and managed. 	<p>Extent: Site (-1) Duration: Short-Term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>7. Ecology - Destruction of suitable habitat for Red Listed plants and animals.</p>	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-6)</p>	<ul style="list-style-type: none"> • Minimal disturbance to vegetation where such vegetation does not interfere with construction and operation of the line. • No unnecessary destruction to surrounding vegetation during the removal of the power line. • Protection of any protected or endangered plant species. • Prevention of litigation concerning removal of vegetation. • The single <i>Hypoxis hemerocallidea</i> observed under the existing line should not be impacted on during the removal of the existing power line. • Where herbicides are used to clear vegetation, specimen-specific chemicals should be applied to individual plants only. General spraying should be prohibited. • All alien vegetation should be eradicated over a five-year period. Invasive species (<i>Acacia mearnsii</i>, <i>A. dealbata</i>, <i>Eucalyptus</i>) should be given the highest priority. • Disturbed areas of natural vegetation around the removed towers must be rehabilitated immediately to prevent soil erosion. • Re-seeding shall be done on disturbed areas as directed by the 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>Environmental Control Officer.</p> <ul style="list-style-type: none"> It is recommended that the developer and construction contractor as well as an independent environmental control officer (ECO) should be made aware of the possible presence of certain threatened animal species (Giant Bullfrog, African Grass Owl, Lesser Flamingo, South African Hedgehog) prior to the commencement of construction activities. In the event that any of the above-mentioned species are discovered relevant conservation authorities should be informed and activities surrounding the site suspended until further investigations have been conducted. 	
<p>8. Heritage - Impact on sites of heritage, cultural and archaeological significance as identified in the Heritage Assessment.</p>	<p>Extent: Local (-2) Duration: Permanent (-4) Intensity: Low (-1) Probability: Improbable (-1) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> Most of the sites fall outside of the construction footprint for the dismantling however If during construction any cultural heritage resources or graves are unearthed, all work has to be stopped until the site has been inspected and mitigated by a cultural heritage practitioner. Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low(-4)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>noted. Permits must be obtained from the South African Heritage Resources Agency.</p> <ul style="list-style-type: none"> Any mitigation measures applied by an archaeologist, in the sense of excavation and documentation, should be published in order to bring this information into the public domain. 	
<p>9. Waste Waste generation during the dismantling phase will have a negative impact on the environment, if not controlled adequately. Waste includes dismantled structures, general construction rubble and hazardous waste (used oil, cement and concrete etc.).</p>	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> Where possible, dismantled structures and construction waste on site must be reused or recycled. Disposal of waste must be in accordance with relevant legislative requirements. The Contractor must familiarise themselves with the definitions of waste and the handling, storage and transport of waste as prescribed in the applicable environmental legislation. Burning of waste will not be permitted. Further detailed mitigation measures are included in the EMPr (Appendix G). 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>
<p>10. Dust Dust emissions will vary from day to day depending on the phase of construction/dismantling, the level of activity, and the prevailing meteorological conditions. The</p>	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> Dust must be suppressed on the construction site during dry periods by the regular application of water. Water used for this purpose must be used in quantities that will not result in the generation of run-off. 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
following possible sources of fugitive dust included vehicle activities associated with the transport of equipment to and away from the site during dismantling.			
11. Noise During the construction phase there is likely to be an increase in noise pollution. The following possible sources of noise could potentially generate noise pollution during construction: dismantling activities; construction vehicles; and construction staff.	Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)	<ul style="list-style-type: none"> Surrounding communities and adjacent landowners are to be notified in advance of noisy construction activities. Provide all equipment with standard silencers. Maintain silencer units on vehicles and equipment in good working order. Construction staff working in areas where the 8-hour ambient noise levels exceed 85 dBA should wear ear protection equipment. 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)
12. Social Limited opportunities do, however, exist for manual labour for unskilled tasks, where the appointed Contractor would be required to make use of local workers (e.g. for vegetation clearing).	Extent: Local (+2) Duration: Short-term (+1) Intensity: Low (+1) Probability: Possible (+2) Significance: Low (+6)	<ul style="list-style-type: none"> Jobs should be given to local residents during construction (such as clearing of servitudes). Should this not be possible, it should be explained to residents that the nature of the development does not allow it, so that false expectations of possible jobs do not exist. 	Extent: Local (+2) Duration: Short-term (+1) Intensity: Low (+1) Probability: Possible (+2) Significance: Low (+6)
13. Visual Dismantling activities.	Extent: Local (-2) Duration: Short-term (-2) Intensity: Low (-1) Probability: Definite (-4) Significance: Medium (-9)	<ul style="list-style-type: none"> Dismantling activities will take place within the mine footprint, visual impacts will be localised. Vegetation clearing to be limited to the servitude. 	Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Possible (-2) Significance: Low (-6)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
Indirect			
None.			
Cumulative Impacts			
<p>Due to extensive mining activities within the region, along with extensive agriculture, the regional cumulative impacts as a result of loss of wetlands is considered to be significant. The potential impact within wetland areas is expected to be greatest during the construction phase, specifically wetland FEPAs where dismantling of infrastructure is to take place. This will however be of a short duration and should management measures (as indicated in the sections above) be followed the significance of this impact may be lowered.</p>			

2.2 Alternative 1 (preferred) - Construction

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
Direct			
1. Soils - Disruption of surface soils. Erosion and sediment from removed towers/structures.	Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)	<ul style="list-style-type: none"> Disturbed areas of grassland vegetation and riparian areas must be rehabilitated immediately to prevent soil erosion. No vehicles should be allowed to cross rivers or streams in any area other than an approved crossing, taking care to prevent any impact (particularly erosion) in surrounding habitat. As far as possible, all construction activities should occur in the low flow season, during the drier winter months. Sheet runoff from access roads should be slowed down by the strategic placement of berms. Remove and store topsoil separately in areas where excavation/degradation takes place. Topsoil should be used for rehabilitation purposes in order to facilitate re-growth of species that occur naturally in the area. 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)
2. Wetlands – Loss of wetland habitat and ecological structure due to:	Extent: Local (-2) Duration: Medium-term (-2) Intensity: High (-3) Probability: Highly Probable (-3)	<ul style="list-style-type: none"> Physically demarcate wetland buffer areas on site and ensure that these areas are off limits during the 	Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Possible (-2)

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<ul style="list-style-type: none"> • Construction of power lines within wetland and wetland buffer areas; • Development of access routes for construction purposes through wetland areas; • Placement of construction lay-down areas within wetland areas; • Clearing of wetland vegetation during dismantling; • Dumping of waste materials, including waste material spills and refuse deposits into wetland areas; • Earthworks in the vicinity of wetland areas leading to increased runoff and erosion and altered runoff patterns; • Inadequate management of edge effects during construction; and • Topsoil and other stockpiling adjacent to wetlands and runoff from stockpiles leading to changes in wetland habitat. 	<p>Significance: High (-10)</p>	<p>construction phase of the development. The development footprint area must be clearly demarcated on site and construction workers, vehicles, equipment and material may not occur beyond this area.</p> <ul style="list-style-type: none"> • Positioning of the concrete foundations for the support towers must be located as far as possible outside of the 32 m wetland buffer zones. • No support towers should be erected directly within wetland areas. • It must be ensured that no incision and canalisation of the wetland resource takes place as a result of the construction activities. • It must be ensured that flow connectivity along the wetland resource is maintained by preventing fragmentation of wetland areas. • As far as possible, all construction activities should occur in the low flow season, during the drier winter months, in order to decrease the potential for erosion and sedimentation caused by rainfall. 	<p>Significance: Low (-6)</p>
<p>3. Wetlands - Changes to wetland ecological and socio-cultural service provision:</p> <ul style="list-style-type: none"> • Construction of power line 	<p>Extent: Local (-2) Duration: Medium-term (-2) Intensity: Moderate (-2) Probability: Possible (-2)</p>	<ul style="list-style-type: none"> • It must be ensured that flow connectivity along the wetland resources are maintained by ensuring construction takes place 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Possible (-2)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>infrastructure within wetland and wetland buffer areas;</p> <ul style="list-style-type: none"> • Site clearing and the removal of vegetation leading to increased runoff and erosion and consequent sedimentation of wetland areas; • Movement of construction vehicles within wetland areas; • Dumping of waste into the wetland areas or spillage from construction vehicles; and • Inadequate management of edge effects during construction. 	<p>Significance: Medium (-8)</p>	<p>beyond the wetland areas.</p> <ul style="list-style-type: none"> • Minimise impacts on hydrological and habitat provision functioning through control of surface water flow and water quality. • Restrict construction to the drier winter months if possible to avoid sedimentation of wetland systems in the vicinity of the proposed development and to minimise the severity of disturbance of wetland habitat and hydrological function. • Concrete may not be mixed directly on the ground and any visible concrete remains must be physically removed immediately and disposed of as waste in a licenced landfill site. 	<p>Significance: Low (-6)</p>
<p>4. Wetlands - Impacts on wetland hydrology and sediment balance:</p> <ul style="list-style-type: none"> • Site clearing and the removal of vegetation leading to increased runoff and erosion; • Construction activities within wetland areas; • Earthworks in the vicinity of wetland areas leading to increased runoff and erosion and altered runoff patterns; • Construction of stream crossings altering stream and baseflow patterns; • Topsoil stockpiling adjacent to 	<p>Extent: Local (-2) Duration: Medium-term (-2) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> • Erosion berms should be installed in any areas where soil disturbances within the vicinity of the wetland systems have occurred to prevent gully formation and siltation of the aquatic resources. The following points should serve to guide the placement of erosion berms: <ul style="list-style-type: none"> – Where the track has slope of less than 2%, berms every 50 m should be installed; – Where the track slopes between 2% and 10%, berms every 25 m should be installed; and – Where the track slopes between 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Low (-6)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>wetlands and runoff from stockpiles leading to sedimentation of the system;</p> <ul style="list-style-type: none"> • Movement of construction vehicles within wetlands; and • Dumping of waste into the wetland areas. 		<p>10%-15%, berms every 20 m should be installed.</p> <ul style="list-style-type: none"> • Restrict construction to the drier summer months if possible to avoid sedimentation. • Should it be necessary to construct on slopes, it must be ensured that the necessary erosion prevention measures are put in place • No vehicular or pedestrian movement may take place in areas where erosion is already present. 	
<p>5. Avifauna – Electrocutions.</p>	<p>Extent: Site (-1) Duration: Long-term (-3) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> • Mitigation for electrocutions is dependent on the power line pole design. • Eskom have indicated that a steel monopole design as per Figure 4, Appendix C) will be used. If this design is implemented and the dimensions of the pole are as per Figure 4 and Appendix C then the impact of electrocutions will be very low. If the design changes, a suitably qualified avifaunal specialist must be contacted to re-evaluate this impact. 	<p>Extent: Site (-1) Duration: Long-term (-3) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-6)</p>
<p>6. Avifauna – Impact of birds on the quality of electricity supply.</p>	<p>Extent: Site (-1) Duration: Long-term (-3) Intensity: Moderate (-2) Probability: Possible (-2) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> • Mitigation is dependent on the power line pole design. Eskom have indicated that a steel monopole design as per Figure 4, Appendix C) will be used. If this design is implemented and the dimensions of 	<p>Extent: Site (-1) Duration: Long-term (-3) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-6)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>the pole are as per Figure 4 and Appendix C. If this is the case the impact of birds on the quality of supply will be very unlikely as this design is generally immune from this impact.</p>	
<p>7. Ecology - Habitat destruction with transformation of natural vegetation and habitats within the proposed site.</p>	<p>Extent: Local (-2) Duration: Long-term (-3) Intensity: Low (-1) Probability: Possible (-2) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> • During the construction phase workers must be limited to areas under construction and the existing servitude during the removal of existing lines and access to the undeveloped areas, especially the surrounding open grassland and valley bottom wetlands areas must be strictly regulated (“no-go” areas during construction and removal activities). • All temporary stockpile areas including litter and dumped material and rubble must be removed on completion of construction. The dismantled towers and power line must be removed from the site. All alien invasive plant should be removed from the existing servitudes to prevent further invasion. • Access to the new power line servitudes must be restricted. • No dumping of any materials in undeveloped open areas and 	<p>Extent: Site (-1) Duration: Long-term (-3) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-6)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>neighbouring properties. Activities in the surrounding open undeveloped areas (especially open grasslands and valley bottom wetlands) must be strictly regulated and managed.</p> <ul style="list-style-type: none"> • Upon completion of the stringing operations and before handover, the servitude must be inspected and all vegetation interfering with the safe operation of the line shall be removed / cut down. All alien vegetation in the total servitude and densifiers creating a fire hazard shall be cleared and treated with herbicides. 	
<p>8. Ecology - Destruction of suitable habitat for Red Listed plants and animals.</p>	<p>Extent: Local (-2) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-5)</p>	<ul style="list-style-type: none"> • Minimal disturbance to vegetation where such vegetation does not interfere with construction and operation of the line. • As the majority of the alignment is situated within transformed agricultural lands and degraded grasslands vegetation removal will be restricted to the removal of alien invasive tree species. • Prior to construction and vegetation clearance a suitably qualified ECO should closely examine the proposed construction areas (tower supports) for the presence of any animal burrows (including spiders and scorpions), rocky outcrops, logs, 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>stumps and other debris and relocate any affected animals to appropriate habitat away from the servitude or tower.</p> <ul style="list-style-type: none"> • Disturbed areas of natural grassland vegetation around the installed towers must be rehabilitated immediately to prevent soil erosion. • As a precautionary mitigation measure it is recommended that the developer and construction contractor as well as an independent ECO should be made aware of the possible presence of certain threatened animal species (Giant Bullfrog, African Grass Owl, Lesser Flamingo, South African Hedgehog) prior to the commencement of construction activities. In the event that any of the above-mentioned species are discovered relevant conservation authorities should be informed and activities surrounding the site suspended until further investigations have been conducted. • Where herbicides are used to clear vegetation, specimen-specific chemicals should be applied to individual plants only. General spraying should be prohibited. • All alien vegetation should be eradicated over a five-year period. 	

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
		<p>Invasive species (<i>Acacia mearnsii</i>, <i>A. dealbata</i>, <i>Eucalyptus</i>) should be given the highest priority.</p> <ul style="list-style-type: none"> Re-seeding shall be done on disturbed areas as directed by the Environmental Control Officer. 	
<p>9. Heritage - Impact on sites of heritage, cultural and archaeological significance as identified in the Heritage Assessment.</p>	<p>Extent: Local (-2) Duration: Permanent (-4) Intensity: Low (-1) Probability: Improbable (-1) Significance: Medium (-8)</p>	<ul style="list-style-type: none"> Most of the sites fall outside of the construction footprint however If during construction any cultural heritage resources or graves are unearthed, all work has to be stopped until the site has been inspected and mitigated by a cultural heritage practitioner. Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits must be obtained from the South African Heritage Resources Agency. Any mitigation measures applied by an archaeologist, in the sense of excavation and documentation, should be published in order to bring this information into the public domain. 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>

Potential impacts	Significance rating of impacts before mitigation	Proposed mitigation	Significance rating of impacts after mitigation
<p>10. Waste Waste generation during the construction phase will have a negative impact on the environment, if not controlled adequately. Waste includes general construction rubble and hazardous waste (used oil, cement and concrete etc.).</p>	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> Where possible, construction waste on site must be reused or recycled. Disposal of waste must be in accordance with relevant legislative requirements. The Contractor must familiarise themselves with the definitions of waste and the handling, storage and transport of waste as prescribed in the applicable environmental legislation. Burning of waste will not be permitted. Further detailed mitigation measures are included in the EMPr (Appendix G). 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>
<p>11. Dust Dust emissions will vary from day to day depending on the phase of construction, the level of activity, and the prevailing meteorological conditions. The following possible sources of fugitive dust included vehicle activities associated with the transport of equipment to and away from the site during dismantling.</p>	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> Dust must be suppressed on the construction site during dry periods by the regular application of water. Water used for this purpose must be used in quantities that will not result in the generation of run-off. 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>
<p>12. Noise During the construction phase there is likely to be an increase in noise pollution. The following possible sources of noise could potentially generate noise pollution during</p>	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Moderate (-2) Probability: Highly Probable (-3) Significance: Medium (-7)</p>	<ul style="list-style-type: none"> Surrounding communities and adjacent landowners are to be notified in advance of noisy construction activities. Provide all equipment with standard silencers. Maintain silencer units on 	<p>Extent: Site (-1) Duration: Short-term (-1) Intensity: Low (-1) Probability: Improbable (-1) Significance: Low (-4)</p>